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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/706,673	11/11/2003	John M. Morgenstern	SAI.P023 US	8314

32794 7590 10/29/2004

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EXAMINER

COLLINS, TIMOTHY D

ART UNIT	PAPER NUMBER
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3643

DATE MAILED: 10/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/706,673

Applicant(s)

MORGENSTERN ET AL.

Examiner

Timothy D Collins

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 August 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) 11-26 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 12/1/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In Claim 1, it is unclear exactly how many combinations are being claimed. For example are there multiple configurations for EACH of at least two mach numbers? Meaning that there must be at least two configurations for mach 1.1 for example and then at least two more configurations for mach 1.3 for example? This must be clarified and addressed. Also it is unclear how exactly the "second derivatives of cross-sectional area of the vehicle" can be minimized. It is suggested that the applicant wants to minimize the second derivative of the plot of the area distribution from the nose to tail of the vehicle. This is because the actual cross-sectional area of the vehicle is merely a constant and the second derivative of that is not useful. Because of the above the claims have been treated as best understood.

Claim Rejections - 35 USC § 103

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3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-10 as best understood are rejected under 35 U.S.C. 103(a) as being unpatentable over "Area Rule and Transonic Flight" from www.Aerospaceweb.org (hereinafter called "area rule").

a. Re claims 1, 2,5,8-10, "area rule" shows that Whitcomb is concerned with minimizing the second derivative of the volume distribution of the vehicle at least on page 2. The examiner takes official notice that this concept has been a goal for many years and is taught in universities to aerospace engineering students in their junior or senior years. Also the examiner takes official notice that averaging of configurations to determine a best configuration has been done in many instances throughout modern computer assisted engineering. Iterative processes along with interpolation are well known to help the design process and allow one to come up with a design that will generally meet expectations at various design points and in this case flight regimes. Therefore it would have been obvious to one of ordinary skill in the art to have applied the teachings of iterative processes and interpolation and averaging into the teachings of Whitcomb as seen in "area rule" so as to find a best design that meets expectations for various design points. "area rule" discloses an aircraft.

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- b. Re claim 3, "area rule" discloses smoothing cross-sectional area distribution at least in page 2 at the third line up from the bottom therefore it would have been obvious to one of ordinary skill in the art to have smoothed the second derivative because this will lead to a smooth cross section.
- c. Re claims 4 and 7, "area rule" may not disclose weighting configurations however it is old and well known in the art that weighting configurations of anything is how to best configure a device to operate under multiple conditions and weighting toward those that it will encounter most is appropriate in design.
- d. Re claim 6, "area rule" may not specifically disclose filtering the data however filtering is old and well known so as to get rid of "flyers" which are data points that are useless and/or physically impossible. This is done so that a product will function, as the physically impossible points would render the product useless.
- e. Note: it is suggested that the applicant claim the invention in more specific terms and with a slightly more detailed approach. The breadth of the claims of the instant application cause some confusion as seen in the 112 rejections above. Also it seems that the applicant is merely combining Whitcomb's teachings and known techniques for computer design.

Election/Restrictions

- 5. Claims 11-26 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected groups, there being no allowable generic or

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linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 8/9/04.

6. Applicant's election with traverse of group I claims 1-10 in the reply filed on 8/9/04 is acknowledged. The traversal is on the ground(s) that it is not a burden to search the extra claims. This is not found persuasive because the claims are drawn to separate inventions and would require a significant added search in different areas.

The requirement is still deemed proper and is therefore made FINAL.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy D Collins whose telephone number is 703-306-9160. The examiner can normally be reached on M-Th, 7:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Poon can be reached on 703-308-2574. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Timothy D. Collins

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Patent Examiner
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A handwritten signature in black ink, appearing to read "Peter M. Poon", with a stylized, flowing script.

Peter M. Poon
Supervisory Patent Examiner
Technology Center 3600

10/27/04